

Discrete institutional alternatives: Theoretical and policy issues (Celebrating the 80th anniversary of Ronald Coase’s “Nature of the Firm”)

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Abstract

This paper addresses the comparative analysis of discrete institutional alternatives in organizing transactions among distinct economic entities. The theoretical framework for understanding this issue was introduced by Ronald Coase 80 years ago. Following this seminal contribution, a standard theoretical distinction now exists between the institutionally embedded set of economic exchanges (the transactions) and the institutional settings within which these transactions are organized, firms and markets being the epitomized polar cases. On the normative side, this approach facilitated better understanding of failures and flaws in the organization of numerous transactions and of how to fix them. Three examples are provided to illustrate the issues at stake: contracting on large diameter pipes for PJSC “Gazprom” infrastructure projects, contracting in commercial real estate, and determining governance mechanisms for companies facing significant switching costs in highly concentrated markets.

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1. Introduction

Economic studies of institutions have long ago surpassed the stage of operationalizing key concepts, overcoming the initial Smith (1776 [2007]) approach of

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putting “the invisible hand” operating throughout markets at the core of economic analysis. Coase (1993, p. 4) clearly summarized this transformation of economic theory, emphasizing the need to include the broad variety of economic arrangements, with complex choices arising as a result. In doing so, the Coasian approach opened new opportunities to re-think previous topics and examine new avenues for promising areas of research.

This being said, the question of how to make economic theory more practical without losing the lion’s share of its rigor and versatility remains entirely relevant. In our view, the issue of how to implement the conceptual apparatus of new institutional economics in a way that can help solve the numerous puzzles facing the economics of organization remains very high on the research agendas of theorists as well as practitioners.

Our paper does not pretend to solve these problems, of course. Rather, it focuses on a specific aspect, outlining a framework to examine two types of imperfections that plague discrete institutional alternative governance structures (hereafter, DIA). First, there is the now standard issue, following Williamson’s rich contributions well-summarized in his 1996 book, concerning the obstacles that prevent choosing the DIA that can minimize transaction costs. This issue can be identified as the *organizational choice problem*, that is, which DIA to choose. Second, there is the problem of why once a DIA has been chosen, underexploited opportunities remain within this DIA, thus keeping transaction costs higher than they could be without switching to another DIA (which would involve significant transaction costs). This can be identified as the *governance issue*.

Endorsing this approach means that we focus on the choice of an institutional system for efficiently organizing economic exchanges (transactions), thus seeking positive economic analysis rather than regulatory precepts.

2. At the crossroads of institutional research fields

Consideration of institutions as relevant for understanding economic activities, and as departing from the “blackboard” institutions famously stamped by Coase, can no longer be regarded as a breakthrough in economic theory. This concept is now part of our theoretical background, including mainstream economics. Moreover, is it now generally acknowledged that institutions emit mixed signals (North, 1990 [1997]) concerning the definition of incentives to conduct economic exchanges which efficiently use resources and properly adapt to changing situations. It has long become a standard within new institutional economics to consider institutions and their associated rules as incomplete and imperfect (Eggertsson, 1990 [2001]; Furubotn and Richter, 2005). Accordingly, identification and examination of the coercive mechanisms needed to fill the gaps and enforce the rules are now substantial parts of the research agenda (Williamson, 1996; Greif, 2006), as illustrated by the literature on regulation (Laffont and Tirole, 1993; Laffont, 2005).

Similarly, there is hardly any serious dispute that institutions are diverse and that their impact on the organization of economic activities is hard to assess. Nevertheless, there are substantial contributions intended to present a theoretically structured classification of this diversity of institutional arrangements (see Greif, 2006; Acemoglu and Robinson, 2012). More exploratory (and controver-

sial) are the numerous contributions referring to these typologies to comparatively assess the impact of specific institutions on the functioning and development of economies in various countries. Illustrative in that respect are North et al. (2009), Acemoglu and Robinson (2012)¹, and in a more controversial manner, the World Bank series on “Doing Business” (first published in 2004).

Over 30 years ago, Williamson (1985), in his “Economic institutions of capitalism,” already noted that not all arrangements are available or feasible. He encapsulated this issue in what he identified as the principle of “weak form selection”. According to this principle, a realistic positive analysis must consider only those DIA that are available *and* implementable in a specific institutional environment. In doing so, Williamson contributed to operationalize Coase’s ideas about the nature of the firm (1937 [1993]) and the problem of social costs (1960 [1993]). It should be noted that this “principle” intended to capture not only the idea of imperfect institutions but also possible gaps in the rules for selecting governance mechanisms aligned with transaction attributes (frequency, uncertainty, and asset specificity).

This issue of consistency between transaction attributes and the governance mechanisms (the DIA) adopted to conduct these transactions is even more sensitive to critical transactions. Critical transactions are those associated with strong complementarities, so that their analysis requires looking at the chain of transactions, as later explored and well-illustrated by the case of network infrastructures (Kunneke et al., 2010). The central hypothesis underlying these different analyses is now well-known: the greater the consistency (or “alignment”, in Williamson’s vocabulary) between the transaction attributes (or a chain of transactions) and the governance mechanisms (or DIA) supporting these transactions, the lower the expected transaction costs will be. This approach allowed the exponential development of the literature on the trade-off between using market mechanisms or performing actions in-house (the infamous “make-or-buy” trade-off), a framework later extended by the integration of other institutional arrangements identified as “hybrids”.²

The initial efforts by Williamson to make Coase’s concepts operational were summarized in 1987 at a conference celebrating the 50th anniversary of the publication of “The nature of the firm” (Williamson and Winter, 1988 [2001]). These contributions overlapped with efforts by North to introduce the Coasian approach in analyzing “the rules of the game” at the level of macro-institutions (see North, 1981, 1990 [1997]). The combination of these two extensions of the Coasian perspective, one focusing more on the micro-level of DIA, the other on the macro-level of the institutional environment, gave a strong impulse to the development of research in new institutional economics. The 1990s witnessed blossoming contributions partially reviewed, with some emphasis on the methodological issues at stake, in Eggertsson (1990 [2001]) and Furubotn and Richter (2005). The domain covered by the new institutional approach expanded rapidly and in numerous different directions and disciplines during the 1990s. In the beginning

¹ Consider, for example, their hypothetical distinction between extractive and inclusive economic and political institutions, which is introduced to explain why some economies prosper while others (in the vast majority of cases) never escape the vicious cycle of underdevelopment (Acemoglu and Robinson, 2012).

² For a survey on the trade-off between markets and hierarchies (firms), see Klein (2008) and Joskow (2008). For surveys on hybrids, see Ménard (2004, 2013).

of this century a handbook summarizing these developments required to mobilize an extended group of internationally reputed researchers, including Coase, North, Ostrom and Williamson (Ménard and Shirley, 2005).

3. Some critical issues

This very short overview of events in the field of new institutional economics does not claim to cover the primary issues at stake. Particularly, this summary does not provide exhaustive information regarding the methodological aspects of the implementation of a research program that mobilized researchers from disciplines as different as economics, management, political sciences, legal studies, and anthropology! Several methodological aspects are discussed in Eggertsson (1990 [2001]), Ménard, (2001), and Furubotn and Richter (2005). From the above publications, we only wanted to focus on the broad picture, with little consideration so far for the normative consequences of this new research program. New institutional economists have been very cautious in that respect, with the subtlety of their analysis of institutions and institutional arrangements making them fully aware of what Coase noted repeatedly, notwithstanding his influence on policy-makers, as synthesized in a strong statement late in his career: “*There are so many wrong ways of doing things and so few right ones* [emphasis added]” (Coase, 1999, p. 5).

At the micro-level of the alternative DIAs among which agents can organize their transactions, no solution is optimal. As noted by Williamson, a comparative approach is in order: “Although marginal analysis is sometimes employed, implementing transaction cost economics mainly involves a comparative institutional assessment of *discrete institutional alternatives* [emphasis added]—of which classical market contracting is located at one extreme; centralized, hierarchical organization is located at the other; and mixed models of firm and market organization are located in between” (Williamson, 1985, pp. 41–42). This rule can be considered relevant not only for transaction cost theory as implemented in the area of the new institutional economic approach examining the choice among organizational arrangements with their associated incentives and adaptation mechanisms (Williamson, 1996, Chap. 4) but also for the even more complex analysis of the changing institutional environment, with its various combinations of behavioral prerequisites and resource characteristics (Shastitko, 2013b). Whether we look at economic policies or business strategies, discretionary decisions must be made when choosing a DIA. This hardly means that the choice is optimal among all available and achievable alternatives.

Indeed, it became already clear over 40 years ago³ that there are a limited number (although usually more than one) of viable mechanisms in a market economy for coordinating the actions of economic entities, and that these alternatives by

³ Strictly speaking, the question about inter-firm and intra-firm interaction was considered much earlier than Coase. Aspects can be found in Adam Smith, in his famous analysis of the “pin factory” (Smith, 1776 [2007]) and in Karl Marx, who, in the first volume of Capital, compared the social division of labor with the organization of labor as a form of cooperation within a factory (Marx, 1867 [1983]). However, the difference is that in those cases, the coordination mechanisms at stake could not be integrated within a single, unified comparative method of analysis such as the one promoted in the DIA research program developed by new institutional economists.

far exceed the domain covered by the price mechanism. This diversity cannot be reduced to the representation of the firms by their production function as it was (and often remains) mainly characterized in neoclassical theory, at least until the late 1970s. What we have learned from Coase, Williamson, and others is that there are complex intra-firm mechanisms of coordination that transcend the role of the price mechanism. Hence, the firm is characterized as a “hierarchy” by Williamson. This opening of the “black box” of the firm enabled examination of the comparative advantages and flaws of the coordination mechanisms operating within a firm. Thus, it was possible to clearly differentiate the new institutional approach from the perspective promoted by the Austrian school of economics, in which alternatives are reduced to the comparison between market competition and a centrally planned and managed economic system, with the former benefiting from greater opportunity to capitalize on the diverse knowledge of the variety of actors (Hayek, 1945).⁴ This opposition between the two approaches remains true, notwithstanding recent efforts to surpass the limits of the Austrian paradigm (Langlois, 2007, 2013; Sautet, 2000).

An important step in the development of new institutional economics and its analysis of the variety of DIA has been the increasing concern with arrangements that are distinct from both markets and integrated (hierarchical) arrangements. Identified as *hybrid* arrangements by Williamson in his seminal 1991 paper⁵, it has been argued that these institutional arrangements among economic entities that maintain distinct property rights over their specific assets while sharing some decision rights (and in some cases, property rights, as in joint ventures) can offer superior alternatives to the polar cases of “markets” and “hierarchies” (Ménard, 2004, 2013). They can do so by enabling collective adaptation to changing situations while simultaneously preserving strong incentives for parties that remain residual claimants (Hart, 2001). They can achieve these effects through a subtle combination of shared rights (Ménard, 2013, 2017) that allows the creation of buffers against uncertainty through increased cooperation.

However, there remains an important methodological question concerning the actual implementation of this theory, either in empirical research, or more so, as guidance to decision-makers: exactly which DIAs do we compare? Indeed, what we must do on the one hand is to compare existing institutional arrangements to potential ones, as already noted by Masten et al. (1991). On the other hand, since the model is static, it is often implicitly assumed that in a competitive environment, the prevailing governance modality: market price mechanism, relational contracts among hybrids, and hierarchical coordination in firms are all designed in such a way that alignment allows to reach the best achievable result. Indeed, were this not the case, the question would arise regarding the extent to which the actual result deviates from the potential, achievable one, which itself is an essential element for assessing the comparative advantage of a given governance mechanism.

⁴ This vision contradicts the approach used by Coase who, in his article “The nature of the firm”, tried to explain not only why firms exist but also what limits their growth. In substance, the second question is the reverse of the evaluation of the principal’s opportunity to manage the entire economy in a manner similar to managing a single firm.

⁵ However, the term “hybrid” was actually introduced by Rubin (1978) in his pioneering paper on franchising.

Comparing DIAs can therefore be performed along different dimensions, a view partially reflected in the concepts of “market for institutions” and “competition of institutions” (Pejovich, 1996; Tambovtsev, 2001b). In that perspective, competition among alternative institutions could ultimately arrive at one arrangement prevailing over others and becoming the common feature used by agents facing similar economic situations, while progressively eliminating alternative arrangements.

However, this approach introduces a dynamic, long-term perspective that relies on a sort of natural selection process (see already Alchian, 1950). Meanwhile, the prevailing methodology currently focuses on short-term selection among discrete institutional alternatives, with most attention paid to the transaction attributes that make one DIA a better fit than its competing arrangements, for example, when determining the specific conditions under which hybrids may benefit from comparative advantages over pure market price mechanisms. In a sense, this interpretation could be related to the concept promoted by Buchanan (1994), who emphasized the duality of goods, which intends to combine the physical and transformational characteristics of goods captured by production functions and the transactional traits accompanying their exchange, which thus introduces the institutional dimension.

4. Revisiting the approach of transaction cost economics

The methodological difficulties in implementing the transaction cost approach provide grounds for the distinction we have introduced between the imperfections and biases regarding the internal organization of a specific DIA (thus providing insights for its comparison with the performance of alternative DIAs) and the imperfections and biases in the institutional mechanisms at work in the trade-offs among these arrangements (Shastitko, 1998). In other terms, there might be methodological advantages in sharply distinguishing events within a specific institutional setting and those at the frontier, where the arrangement is in competition with alternative forms. Along with other advantages, this distinction may facilitate understanding why regulation should remain limited to the conditions of competition at the boundaries of institutional arrangements (where they interact), without comment on the internal organization of alternative DIAs.

The distinction could also provide a foundation for the two forms capable of monitoring DIAs noted by Shastitko (2013a), the “regulatory market” and the “liberal market”. According to this research, the former market is characterized by a certain propensity to interfere with the internal organization of DIAs, while the latter tends to limit its function to events at the frontier where alternative DIAs interact.

However, in what follows, we do not elaborate on the characteristics and debates regarding these two approaches. Rather, we focus on the more specific problems raised by the internal characteristics of a specific DIA (the first type of potential imperfections or flaws). Let us assume that in addition to the existing structural arrangement of a DIA, another modality of organization is possible within the same DIA. The issue for decision-makers then becomes not to choose another DIA (as would be the case with the second type of imper-

fections and biases), but rather to adjust the existing one. In other terms, we propose a methodological switch, refocusing the attention on the possibility that the same DIA may be associated with different levels of transaction costs. The literature on plural forms, in which one firm uses different modalities for procuring its inputs (e.g., making an input partially in-house, acquiring some amount of it through specific agreements in a well-delineated network, and supplying yet another part through competing markets), can partially illustrate the issues at stake (Ménard, 2013).

Difficulties in empirically assessing these situations notwithstanding, this formulation may enrich our perception of institutional flaws along the two dimensions we have identified, as well as the persistence of inefficient institutional arrangements, even when they are unambiguously “second best.” It may also facilitate understanding the debate among scholars from different fields concerning whether it is better to make changes *within* an existing DIA or to design complex mechanisms for switching *across* DIAs. For example, a firm may have market power over certain goods or services, which signals a failure of the price mechanism. However, this is not necessarily a sufficient condition for motivating the emergence of government regulation, which typically occurs through monitoring tariffs. Alternative options might be available and admissible with respect to an efficient organization of the production and/or circulation of goods and services at stake. This might occur, for example, when the industry regulator (or other institution linking the general rules to the actions of those operating within these rules) allows some interaction between this monopolistic agent and the related parties, considering the specific business activities involved as well as other risks arising from anti-competitive behavior (see already Joskow, 2002; Radchenko et al., 2013; Avdasheva and Kurdin, 2013; Radchenko and Shastitko, 2013). Indeed, as noted by Stiglitz (2001) in his Nobel lecture, a flaw may not just be compensated for by replacing it with another structural alternative, but must be removed altogether. In other terms, a badly designed market regulation may well destroy the market under consideration. Related to our example above, the implementation of measures aimed at facilitating market entry for new players and creating incentives for major market players to reevaluate the resulting risks may induce the latter group to abandon the market. Meanwhile, the new players might not have the technical expertise, financial capacities, human resources, etc. to fill the void thus created, so that eventually the entire market collapses.

All these considerations suggest an important lesson from new institutional economics: apart from the now well-established view that there are alternative ways to organize transactions (different DIAs), there are also different arrangements with different tools to monitor interactions within the different DIAs that operate in the economy. At stake is the design of adequate institutional governance mechanisms (Tambovtsev, 2001a), with appropriate evaluation of their regulatory effects (Kryuchkova and Shastitko, 2006; Shastitko, 2010).

5. Imperfection(s) of second-order institutions

In his influential paper summarizing some central lessons of the new institutional economics, Williamson (2000, p. 597) suggested making distinctions be-

tween the different levels at which institutions operate, with second-order institutions identified as what we have designated as DIAs (in Williamson's vocabulary, "governance structures"). Shastitko (2014, p. 52) noted the importance, from that perspective, of analyzing the adequacy of economic policies with the tools these ideas provide. Four reasons motivate this approach.

First, there is no such thing as perfect institutions. Accordingly, the design of institutional rules obeys a sort of "systematic selective blindness", with attention focused on a very limited set of features. The result is a gap between the chosen arrangements and the actual structure of transaction costs. With respect to designing economic policies, one way to circumvent this problem is to involve the concerned groups in policy design. This approach may facilitate learning about the expected effects rather than depending at best on the *post-factum* revelation of these effects. However, a drawback to this solution is the risk of capture and/or the risk of what Spiller (2009) identified as "third party opportunism".

Second, decision-makers must choose among available, and by definition, imperfect alternatives. However, what about the potential availability of superior alternatives, which can be assessed only through comparative evaluation of the different transaction costs involved? Beyond the theoretical and empirical difficulties of assessing these costs, which requires identifying and differentiating DIA with sufficient "granularity", we know that very often we learn from decision-makers who are making choices by assessing DIAs through direct importation, transplantation, expansion in a different direction, or any combination of these (Polterovich, 2001; Kuzminov et al., 2005; Polishchuk, 2008).

Third, assessing the comparative advantages and flaws of DIAs requires not only examining their characteristics independently from their environment (e.g., their internal structural properties) as indicated above but also investigating their properties which are sensitive to the institutional environment. For example, intellectual property rights protection in the EU or the U.S. is associated with possible legal abuse, which leads to restricted competition, for example through the creation of patent pools and patent ambushes. In such contexts, selecting a DIA may therefore require finding a compromise between protecting intellectual property rights and protecting competition. This compromise might be more beneficial to social welfare than abandoning the patent system altogether or consistently using anti-monopoly immunities. This issue is the topic of heated debates in the contemporary context of developing Russian antitrust authorities and regulation (see, e.g., Shastitko, 2013c).

Fourth, an essential element in designing a DIA or choosing among possible DIAs depends not only on the "rules-of-the-game" as developed, for example, by competition authorities but also on the enforcement mechanisms that can ensure their observance, either through sanctions and penalties or by facilitating adaptation to changing circumstances through flexible rules. There is a very difficult trade-off here between *rigidity* in rules, which prevents discretionary (and arbitrary) interference from regulators and/or policy-makers, and *flexibility*, which makes changes easier but risks creating a muddy terrain for organizations. This trade-off also faces the problem of how to maximize social well-being: how can we determine whether a given option is the best or is merely the most likely one (Zerbe, 2006)?

This list of imperfections, biases and obstacles that second-order institutions must face is not exhaustive and leaves open many questions. For example, exactly what kind of information is needed to compare DIAs—ex ante as well as ex post; who is involved in collecting and analyzing this information; how can the expected results be compared; and how can they be compared with the actual results of the selected option? Finally, what normative actions can be deduced from the results obtained?

6. Illustrating some of the arguments

Let us illustrate some of the points introduced above by using as a starting point well-known figures proposed initially by Williamson (1996, Chap. 4). These figures summarized the reasoning when it comes to the trade-off among discrete institutional alternatives. We transform them in order to illustrate the impact of a transition from one type of arrangement to another one. First, let us focus on the choice of a DIA (or “mechanism of governance” in the vocabulary adopted by Williamson in that paper) for organizing a transaction. Two attributes of this transaction are taken into account: the degree of specificity of assets required to deliver the good or service for which the transaction is organized; and the uncertainty surrounding this transaction (Fig. 1).⁶

The vertical axis U represents the degree of uncertainty, and the horizontal axis K represents the degree of specificity of the assets (or resources, typically investments) required. AB is the demarcation line between “Market” and “Firm”, which varies according to the combined degree of uncertainty and specificity; BK_1 is the demarcation line between “Market” and “Hybrid” for managing transactions facing moderate levels of asset specificity and comparatively low levels of uncertainty; BK_2 and BK_3 indicate two possible demar-

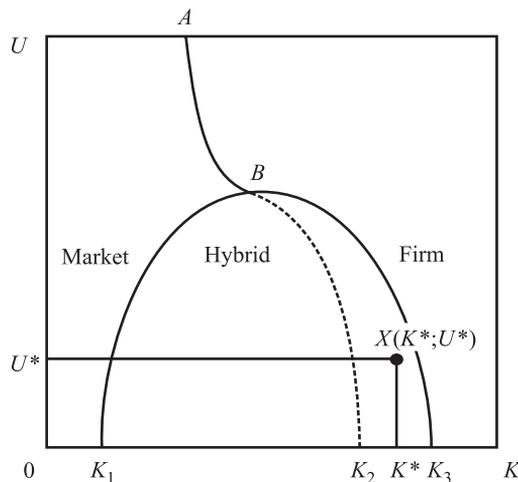


Fig. 1. Conditions for choosing structural alternatives subject to the effect of hybrid asymmetric design and hierarchy.

⁶ In Williamson (1985, Chap. 3; 1996 Chap. 4) a third attribute is introduced: frequency. Because of its ambiguous effects (see Ménard, 2008), this variable is rarely taken into account in empirical tests.

cation lines between “Hybrid” and “Firm” in the management of transactions, with a key role for asset specificity when uncertainty remains at relatively moderate levels. We introduce two possibilities to demonstrate how we can use analytical tools of transaction cost economics to understand the factors that can favor a change in DIA. In the example above, a change in the degree of specificity of key assets results in a different trade-off between these alternative DIAs.

Figure 1 shows conditions related to these two key transaction attributes (uncertainty and specificity of assets) central to the trade-off among the three basic structural alternatives for organizing transactions, i.e., the price mechanism (market), relational contracts (hybrid), or hierarchy (firm). First, note that these are “pure” forms; in the real world, frontiers between these alternatives are blurred and coordination mechanisms (prices, relational contracts, hierarchy) can also play roles beyond the “pure” forms. Second, as suggested by this figure, there are multiple possible combinations between the two variables (attributes) of the underlying model, so that various arrangements can fall within the areas delineated by the border lines, as illustrated by the $(K^*; U^*)$ combination.

Another aspect of the transaction cost approach to the trade-off among these alternative arrangements (DIAs) concerns the forces that influence agents to select one form rather than the other. As mentioned above, Figure 1 builds on transaction uncertainty and asset specificity to explain the existence of alternative modes of organization and the resulting possibility of trade-offs among them. However, what pushes agents to select one form rather than another? Another development proposed by Williamson (1996, Chap. 4), which is at the foundation of a popular heuristic model summarized in Fig. 2, is that decision-makers have strong incentives to search for the transaction cost-minimizing mode of governance (and therefore DIA), either because they are operating in a competitive environment that pushes them towards cost-minimizing strategies, or because although they have strong market power in a weakly competitive or even monopolistic environment, they want to maximize their returns accordingly.

In Figure 2, the horizontal axis again indicates the degree of specificity of assets at stake in a given transaction, while the vertical axis summarizes the governance costs involved in the different arrangements (DIAs). The shape of the curves corresponds to hypotheses (to be empirically tested) concerning the evolution of governance costs when attributes vary (in this illustration, the specificity of assets). For example, the costs of organizing a market transaction increase rapidly when the required assets become specific, because the party that needs these assets becomes heavily exposed to opportunistic behavior from an increasingly small set of suppliers. The same reasoning applies to the two other curves (for hybrids and firms, respectively). Now there are values where these curves intersect (e.g., at $A_1(K_1; G_1)$ or $A_2(K_2; G_2)$, at which points there are incentives for cost-minimizing decision-makers to switch from one DIA to another (e.g., from market to hybrid, and from hybrid to integrated firm, respectively). Not being at the inferior borders of the curves, depending on the level of specific assets in this illustration, means that decision-makers have made choices that keep them away from their best strategy. Points such as A' can be interpreted as analogues to the X-inefficiency of Leibenstein (1966),

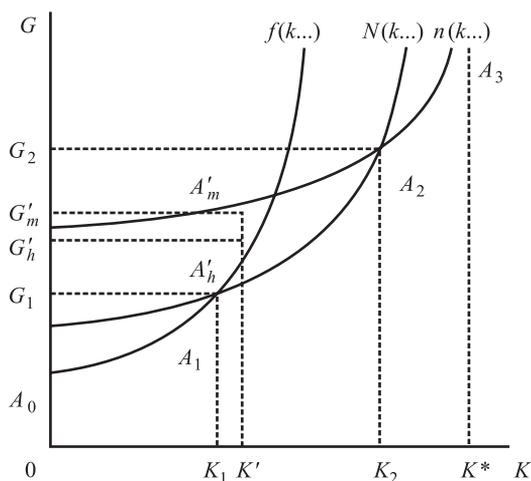


Fig. 2. The forms of institutional agreements in the cases of realizing or not realizing conditions for minimizing transaction costs.

with the qualification that, contrary to the position adopted by Leibenstein, in the Coasian–Williamsonian approach this does not occur only under conditions of monopoly or tightly constrained competition. Therefore, points such as $A'_m(K'; G'_m)$ and $A'_h(K'; G'_h)$ suggest poorly designed discrete arrangements, which represent market arrangement and hybrid arrangement in these cases, respectively.

Despite the simplifications involved in these figures and the accompanying reasoning, the considerations above provide essential indications, based on the building blocks of the Coasian–Williamsonian approach, of the existence and potential imperfection of second-order institutions. However, what this model does not capture are the reasons why imperfect second-order institutions persist over time. Different hypotheses can be made to explain this resilience, e.g., factors rooted in the institutional environment (such as inefficient regulations), learning effects that may create advantages for certain DIAs despite their misalignment with the attributes of transactions they organize, etc. Much remains to be done, particularly with respect to understanding the impact of regulation and state interventions. In what follows, we present three business examples from Russia suggesting the lessons that can be learned regarding economic policies.

The distinction between the imperfections and biases affecting the choice of one DIA over others and those affecting the internal organization of a specific DIA (once it is chosen) has led us to propose a methodology separating the issue of choice among available DIA options on the one hand, and the *ex post* evaluation of specific DIAs once they have been chosen, on the other hand. Implementation of this methodology requires going beyond general principles and acquiring specific knowledge with substantial details concerning the time and circumstances under review, particularly if normative conclusions are expected.

We now turn briefly to the analysis of three different cases from the Russian context. The first example concerns the production and sale of large-diameter pipes for infrastructure projects by Gazprom PJSC, in which the state played

a key role upfront. The second example concerns the building of contractual relationships for leases with a “foreign exchange rate component”, in which the role of the state was minimal, but business practices inherited from the history of contractual relationships were a major component. The third example concerns the choice of governance mechanisms among companies operating in highly concentrated markets with considerable bilateral transition costs, which is illustrative of the problems that arose with corporate privatization during the 1990s.

6.1. Lessons from the “pipe cases” (2011–2015)

An example that illustrates the need to compare DIAs in relation to their design is the creation of a long-distance pipes (LDP) sub-industry in the context of the development of gas pipelines in Russia. This example illustrates the necessity and difficulties of comparing alternative discrete institutional solutions.⁷ During the mid-2000s, private companies made considerable investments without direct governmental support, in exchange for the promise from the government to load production capacities, particularly by tightly limiting LDP imports to Russia. By 2010, a whole new sub-industry had been successfully developed.

At about the same time, an anti-monopoly investigation soon targeted the producers involved, in the so-called “first pipe case” of 2011. Part of the investigation showed that the market was competitive (respecting the so-called “market division hypothesis”).⁸ This first case was closed in early 2013, with the conclusion that there was no antitrust law violation. However, a new case (the “second pipe case”)⁹ was opened against Gazprom, the trader and principal buyer of LDP, which was also the company that needed to procure significant quantities of large pipe products for its projects.

It should be noted that the scheme organizing the LDP trade between the producers and Gazprom was part of the government industrial policy, with the promise that LDP producers would benefit from a regular flow of orders, paired with restrictions on imports, and that private companies would commit to considerable investments in production facilities. The governmental promise to load the facilities, the impact of which can be tracked through comparison with the production of other products by these companies during the 2008–2009 crisis, translated into LDP supply schedules for Gazprom’s infrastructure projects, with planning of the scope, specification, and time of delivery. It is these schedules that attracted the attention of the antitrust authority. Taken out of context, the data could be interpreted as (and initially did support) a means of organizing cartelization.¹⁰

⁷ Russian enterprises had experience producing LDP long before the Nord Stream-1 pipeline was built in the mid-2000s. However, all the LDPs they produced were not suitable for building gas pipelines due to inadequate technical parameters. Therefore, almost all LDPs for main pipelines had to be imported.

⁸ Collusion is banned by Paragraph 3, Part 1, Article 11 of the law “On Competition Protection”; those found guilty may be punished according to Articles 14.32 of the Administrative Violations Code of the Russian Federation and Article 178 of the Criminal Code of the Russian Federation.

⁹ For details about the history of the issue, the substance of the “first antitrust case”, and the results of its deliberation, see: Shastitko and Golovanova (2014), Shastitko et al. (2014).

¹⁰ Discussion of this issue would have been incomplete without mentioning the role of the trader in Gazprom’s infrastructure projects (Golovanova and Shastitko, 2016).

This example illustrates the imperfections and biases in the implementation of DIAs. It also presents as part of these imperfections and biases the interference of third-order institutional factors, in this case, the role of the government in organizing transactions through regulatory mechanisms such as import duties and non-tariff import restrictions.¹¹ A clear consequence is the difficulty, under these circumstances, to perform a reliable comparison of available organizational alternatives. In theory, more reliable comparative analysis would improve the likelihood of selecting the most suitable DIA. For example, in the case under review, organizing an auction to select LDP suppliers seems quite simple, with a relatively low probability of error. However, consideration of the far more complex components involved in a tender of this type (e.g., including in the deal quality control, logistics, section welding, laying, emergency operations, etc.) is a much greater challenge.

Among the difficulties to be faced, two are particularly significant. First, the alternative solution of relying on market competition leaves each party to adapt to ever-changing situations for performing its contractual obligations. Such an arrangement cannot work in this industry where long-term investments are required without some form of indicative planning, which could incentivize secret arrangements among suppliers. Second, as demonstrated by the “first pipe case”, there was no evidence that an achievable and more effective DIA could be implemented that would be more efficient (in terms of costs) and effective (in terms of reaching the goal of identical and continuous LDP procurement). Another aspect of the problem, which emerged in the “second pipe case”, was the role of the trader who coordinated suppliers, thus creating a sort of integrated activity to meet the “on-time delivery” required by the nature of this project (Golovanova and Shastitko, 2016). Is there a more efficient alternative institutional solution? Because there are no similar large-scale gas pipeline construction projects in the world, assessing the possibility of such alternatives remains largely what Coase would have called a “blackboard” exercise.

However, the lessons from this case remain limited. In other situations, without the same technical requirements and time-delivery constraints, comparison of available alternatives seems to be a considerably better approach. Indeed, institutional competition, when possible and adequate for the transaction at stake, is a more efficient tool for selecting the most appropriate DIA from the set of available and feasible solutions than relying on a pre-established solution or a solution presented as the only one possible under the influence of certain interest groups.

6.2. *Commercial real estate lease agreements with a “foreign exchange component in the price”*

A major consideration introduced by Coase and made operational by Williamson regarding the choice of a discrete structural arrangement concerns the uncertainty surrounding a transaction. In business practice, not all risks can be considered as strictly “commercial risks” under the exclusive jurisdiction and

¹¹ Regulatory tools included not only tariff protection through LDP import restrictions but also technical requirements.

explicit responsibility of the parties to the transaction. The existence of paracommercial risks challenges institutions in that respect.

For example, Paragraph 1, Article 2 of the Russian Civil Code states that all business risks are borne by the entrepreneur. In that perspective, as noted in a recent decision from the first instance arbitration court which achieved broad resonance, the risk of changes in conditions surrounding a transaction must be borne by the party to the agreement.¹² The problem arises from a Russian contractual practice which, for reasons embedded in the national history of contractual relationships, introduces a “foreign exchange component in the price”. That is to say, the price paid in rubles for a product or service purchased under a long-term contract can be adjusted regularly (e.g., monthly), because it is connected to a price denominated in a foreign currency (typically, a ruble equivalent of the price in US dollars).

The consequences of this strategy, that are likely due to the lack of trust in contractual relationships and the lack of confidence in the macroeconomic situation, can be devastating. A recent example concerns the revision of the terms of long-term commercial real estate leases with obligations denominated in dollars (or euros), or more precisely, in the ruble equivalent of the payment indexed to a foreign currency. Naturally, in the event of a significant decline in the exchange rate, the buyer of the service must pay a substantially higher ruble price for the same product or service, while the clients using the services pay a significantly lower price. This occurred in Russia from the second half of 2014 through the first half of 2016, when the RUB–USD rate fell almost by half, and by more than 2.5 times during certain periods.

The question is what the parties could or should do when signing the agreement to avoid significant losses for one of the parties afterwards, i.e., during the fulfillment of the obligations. An obvious answer is to identify the risks (foreign exchange risk in our case) and find ways to mitigate those risks. This is the point that the second instance court made when overturning the first court’s decision.¹³ However, this is not as simple as it seems. Identifying risks and allocating responsibilities *ex ante* may involve important transaction costs. If the buyer, when establishing the contract terms and signing the long-term agreement (such that exiting the agreement is not an option or is a costly one), did not sufficiently embed guarantees or adjustment clauses in the contract, unexpected events such as a sharp and sustained fall of the national currency exchange rate would create strong incentives to revise the terms either through mutual agreement or through the courts, particularly when conditions to terminate or revise the agreement were not well-defined *ex ante*.

One could argue that the concerned party simply made a wrong decision for which it should be accountable. However, there might be institutional circumstances that complicate matters. For example, parties to the transaction may have made this agreement in good faith, considering signals from the RF Central Bank indicating their commitment to keep exchange rate fluctuations “within reason-

¹² http://kad.arbitr.ru/PdfDocument/a52e4c62-b90d-4a0e-a31a-df2b0a1b155f/A40-83845-2015_20160201_Reshenija%20i%20postanovlenija.pdf

¹³ http://kad.arbitr.ru/PdfDocument/e51179e4-a51e-45b0-a06d-bb5742b278a1/A40-83845-2015_20160329_Postanovlenie%20apelljacionnoj%20instancii.pdf

able limits.” Changes in government policies then created a bias in transactions, which questioned whether the “victim” of this change should be held responsible. In a sense, this may be understood as an “institutional hold-up” by public authorities (Klein, 1996). In the aforementioned decision by the first court, no sufficient grounds were found to substantiate the termination of the lease agreement between Vimpel-Communications PJSC (lessee) and Tizpribor (lessor),¹⁴ notwithstanding changes in RF Central Bank policy. However, the court mentioned the possibility of establishing an acceptable lease rate within an exchange rate band between RUB 30 and RUB 42 per USD. This situation then implicitly created a tension between the judiciary and the government, with clear impact on transaction costs.

Predictably, the case went through the upper layers of the judicial system. Indeed, the final decision would significantly impact the general conditions of contractual relationships with a foreign exchange component, which are quite extensive in Russian businesses. The decision by the Ninth Arbitration Court of Appeal on March 29, 2016 highlights the likelihood that judges may refuse to consider relating the costs associated with the existing agreement to the current ruble costs of leasing comparable premises. The subsequent decision by the parties to sign an amicable agreement leaves uncertain the substance of the decision that could have been made by the cassation instance. In a sense, it means that the situation remains “institutionally unsolved”.

The different episodes of this case show how costly cumulative mistakes combined with institutional flaws can be for transactors. Are there lessons to be learned that would avoid the continual temptation of *ad hoc* solutions? For example, how are expectations formed by parties to long-term contracts? What information is available to them and how far can they go in adopting expectations regarding changes in the institutional environment (such as public policies)? And how can business responsibilities be disentangled from those that should be borne by public authorities (for example, by a public institution guaranteeing institutional risks such as foreign exchange risks, a sensitive issue since it means that in last resort, all citizens support systemic business risks)?

Related to our central question about the imperfections and biases affecting the choice and internal organization of DIA, the case of “foreign exchange component in the price” of leases raises issues regarding the dynamics of DIA. It also motivates examination of factors that may challenge existing DIA, such as, for example, the impact of expectations formation by parties to private transactions. Other than expectations of parties based on external factors such as the prevailing monetary policy and its credibility at the time of a contractual agreement, a major element arises from behavioral factors rooted in business practices. In our example, fixing the ruble price to a fixed dollar price was common practice at the beginning of the 21st century. Its combination with the very limited applica-

¹⁴ According to the case materials, the preliminary agreement was signed as far back as 2006, whereas the short-term agreement was signed in March 2007, and the long-term agreement was signed based thereon in August 2009. One of the issues that remains open is the force of inertia in contractual relationships in general, and in the agreement under review in particular. The formulation of this issue is legally grounded at least because by the time the long-term agreement was signed in 2009, it was already clear how unreliable the assumptions were upon which the foreign exchange rate expectations were based.

tion of tools for hedging foreign exchange risks became a substantial source of disruption in many Russian contractual agreements.

What this case illustrates is that choosing a DIA to organize voluntary economic exchanges must consider the specific features of the decision-making process used by market players on the one hand, and the characteristics of the institutional environment on the other hand. A particular difficulty in analyzing this combination of factors, and even more so in deriving lessons for decision-makers, is that both dimensions depend to a certain extent on historical trajectories as well as the different degrees of awareness of parties to a transaction, different approaches to data and interpretation, and variations in behavior. These are aspects that remain high on the research agendas of new institutionalists.

6.3. Mechanisms of governance in highly concentrated markets with high bilateral switching costs

One last example that we would like to briefly cover arises from the specific features of the Russian economy after privatization in the 1990s. As a result, many markets have attracted the attention of antitrust authorities because of the numerous cases of mutual dependency between buyers and sellers, making the structure of those markets close to bilateral monopolies, thus translating into significant bilateral transition costs.¹⁵

A significant source of the problem is the fact that privatization very often involved technologically interrelated production sites which operated in a hierarchical, integrated management system built during the Soviet period. One consequence is that when privatization was implemented, ownership of several sites was transferred from a single owner of a given asset to several different owners. This issue, often referred to as the “stability of economic ties”, especially popular among researchers in the 1990s, is presented in a new light here. First, we focus not on the question of stable relations among firms, an issue for a long time partially solved through coercion exercised by the hierarchical management system, but rather on the ability for firms that are now autonomous to adapt to changing circumstances to maintain contractual relations. Second, we consider that applying antitrust coercion norms to build governance mechanisms to face recurring economic disputes between firms locked into inherited contractual relations remains an underdeveloped issue, although the problem was clearly identified long ago (Joskow, 2002).

The question at stake can be understood as one concerning the need to select a workable hybrid governance mechanism when hierarchical management, deprived of its support through public control over rights, is no longer available as a DIA. The issue becomes even more complicated by attempts to compensate for ineffective contractual relationships between formally independent but mutually dependent firms by involving anti-monopoly authorities. This strategy of solving what are essentially business disputes by intervention from anti-monopoly authorities is known in Russia as the “Pikalevo syndrome”

¹⁵ An extensive literature is devoted to explaining the significance of transition costs in building contractual relations; further discussion is not included in this article.

(Shastitko, 2012).¹⁶ There were already some contributions on ways to ensure the stability of economic ties (contractual relations) following a systemic shock (Blanchard and Kremer, 1997). However, they attracted little attention at the time.

As we now know from the economic analysis of long-term contracts involving significant resource specificity, consistent with the Coasian–Williamsonian approach, forces pushing towards integration prevail under these circumstances, so that intervention by anti-monopoly authorities is of little help in sustaining competition among a large set of firms. A much more convincing approach suggested by the transaction cost framework is to turn the antitrust environment into one of economic regulation, for example by coordination of the hybrid type based on agreements among mutually dependent firms (e.g., using formula-based pricing for a product). To conclude, let us emphasize the pervasiveness of this problem of interdependent, locked-in firms. The role played by antitrust authorities in regulating the contractual relationships among firms is a serious challenge for economic theory. If an antitrust authority is deeply involved, even when there is no conflict, does this mean that this authority is wrongdoing when settling contractual relationships among mutually dependent firms operating in highly concentrated markets? Should these “interventionist practices” be stopped immediately, and should private firms be left to resolve their disputes independently, including by going to courts? In other words, is it efficient to import well-established institutions without a careful look at the side effects of their policies?

Should it not be more relevant to introduce alternative solutions: rather than focusing solely on the determination of competitiveness through the number of market players (or their market power), is it not possible to consider a more positive strategy including competition authorities, particularly during a transition phase, to identify unused opportunities, particularly alternative workable governance mechanisms, which would enable parties to transactions to adapt to changing conditions and thus open doors to improved adaptive solutions outside hierarchically organized or purely market-processed transactions? The answer to this question requires more investigation of the capacity and circumstances for hybrid solutions to combine efficiently powerful incentives and collective adaptation.

7. Wrapping it up

In this paper, we focused our attention on two types of imperfections and biases that interfere with the organization of transactions. First, there are flaws (the *first* type of imperfections) arising from what Williamson identified as the “weak selection” constraint, which comes from the fact that we can compare only a limited set of implementable DIAs. This limitation raises the question of whether those alternatives are the only ones available when measuring the effectiveness,

¹⁶ Pikalevo is a small town about 200 km from St. Petersburg where three aluminum, cement and chemical industry enterprises were involved in high switching costs. During Soviet times, these enterprises were part of a unified production system under centralized control. Following its privatization, the aluminum company stopped selling inputs to the two other companies in 2008–2009. This action led to social tensions due to the specificity of some resources, including human capital, which made “redeployability” very difficult. It was the antitrust authority, not adequate economic policies, which were used to restore transactions.

in terms of transaction costs, of the solution selected. Another issue that we have identified (the *second type* of imperfections and biases) comes from the difficulty in assessing available options within a given DIAs (once one has been implemented). Too often, flaws are examined with respect to the market structure with little consideration for the imperfection of prices, not to mention the internal imperfections of alternative governance mechanisms (hybrids, hierarchies). In this paper, we have also shown an example of these flaws with the case of commercial lease contracts.

As a result, there are two questions that “selective intervention” (Williamson) must solve. (1) Under which conditions should one DIA replace another, and at which transaction costs does this switch represent a valuable solution? (2) What are the possibilities and costs of modifying the internal configuration of existing alternatives to improve its performance by reducing its cost of governance while solving potential distribution conflicts? What our examples showed is that there are institutional aspects involved in both issues.

Therefore, when discussing the flaws of a given institutional system, it is *not sufficient* to systematically presume the comparative advantages of another DIA, which is the authoritarian argument developed by market-oriented scholars and decision-makers. It is also *necessary* to look at the circumstances which led to the resulting organizational arrangements and to consider the possible actions that could directly improve, or could facilitate internal improvement of the original DIA parameters, which could thus make the switch to an alternative DIA a Pareto-inferior situation.

However, such research is demanding. It requires not only an in-depth knowledge of the circumstances (including their historical dimensions) and properties under which structured economic exchanges (transactions) are organized but also an understanding of the bargaining power and interests of the influential groups involved. This formulation of the question explains the problem of institutional design based on the idea of importing institutions.

The relevance of this approach with respect to Russian practices in contractual relationship management is particularly significant if we consider the existence of a broad class of unregulated situations that expose adaptation of contractual relationships to arbitrary methods of redistribution of rights and titles. Therefore, a close examination of which possible course of action is optimal is essential, as is the consideration of which of the least “wrong” options is most likely to be implemented.

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